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10/562,731

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EXAMINER

BOYKIN, TERRESSA M

ART UNIT

PAPER NUMBER

1796

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/562,731	<b>Applicant(s)</b> NAKAYA ET AL.	
	<b>Examiner</b> Terressa M. Boykin	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5,6,8-18 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **Response to Arguments**

Applicant's arguments filed 4-25-8 have been fully considered but they are not persuasive in part.

First the Examiner appreciates applicants' clarification of applicants' intended invention in the arguments on pages 7-9. However, after further consideration of applicants intended crux of the invention and the amendments now presented there exist some inconsistencies which lead to the following rejection as set forth below.

### **Claim Rejections - 35 USC § 112**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1,5,6,8-18 and 20 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. Evidence that claims 1,5,6,8-18 and 20 fail(s) to correspond in scope with that which applicant(s) regard as the invention can be found in the reply filed 4-25-8. In that paper, applicant has stated on page 8 line 4 that the [invention] requires a treatment target substance containing water and this statement indicates that the invention is different from what is defined in the claim(s) because a moiety containing a substance conveys a different scope than the recited surfactant and water.

Claims 1,5,6,8-18 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recited substance [A] and the recitation having in the general formulas 1 and 2 the recited **A** is confusing with regard to applicants' intended meaning or scope of the claim. [A] is defined as comprising carbon dioxide and **A** is defined as SO<sub>3</sub>M or COOM. Clarification and/or correction is required as to whether applicants' are intending this moiety to be different, distinguishable or one in the same.

Applicants' are reminded that any future amendments to the claims to clarify or correct any of the rejections above, although perhaps having the same or identical wording as that of the original specification or original claims, must also remain within the same context or meaning as that of the original specification or original claims. If applicants wish to amend claims, the support for the amendment should be specified.

With regard to the 102 and 103 rejection, in view of the above, the rejections will be maintained until further clarification of claims are met.

With regard to the arguments regarding a Obviousness-type Double Patenting and the Double Patenting rejection, the Examiner the Double Patenting rejection has been withdrawn. however, the Obviousness-type Double Patenting rejection has been maintained with respect to application **10/525847** only.

**Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1, 5, 6, 8-18 and 20 are rejected under 35 U.S.C. 102(a, b, or e) as being anticipated by EP 0442679 (related to JP 4-214706 as noted on applicants I.D.S. filed 3-21-6) see abstract, claims or USP 5780565 (related JP 10502691 as noted on applicants I.D.S. filed 3-21-6)..**

Applicant's claims are drawn to a method of purifying a treatment target substance comprising carrying out a removing treatment of a fluorine-containing surfactant by bringing said treatment target substance containing said fluorine-containing surfactant into contact with a substance [A], wherein said substance [A] is a gas under standard conditions ( $10^5$  Pa, 0.degree. C.).

**EP 442679** discloses a polymer latex or coagulated polymer latex is purified by treatment with high pressure solvent (HPS) selected from liquefied gas or supercritical fluid. Depending upon choice of HPS, the purification of a polymer latex may be carried out with or without coagulating the latex.

The high pressure solvent (HPS) comprises carbon dioxide, nitrous oxide, ethylene,

Art Unit: 1796

ethane, propylene, propane, and/or fluorocarbons containing up to 4 C atoms. The latex contains 5-30 wt. % solids. The polymer is selected from methacrylate (MA)/butadiene (BD)/styrene(ST) copolymer (esp. 5-50 wt. % MA, 35-90 wt. % BD and 5-15 wt. % ST), acrylonitrile/BD/ST copolymers, (meth)acrylate copolymers or vinyl acetate polymers. The treatment is carried out by dispersing droplets of latex into the HPS to form particles of coagulated polymer of uniform and narrow particle size distribution, preference the HPS is mixed with other components (to improve extraction of impurities) prior to or during dispersing the latex, more preferably with gas, e.g., nitrogen, air or helium, or with 1-4C alkanol, and the treating pressure is controlled up to  $82188 \times 10$  power 3  $\text{W/m}^2$  (12000psi) and the temperature from 10-200 deg.C. The coagulated particles are further treated with HPS, especially  $\text{CO}_2$  or  $\text{N}_2\text{O}$ .

The polymer particles produced when the latex is coagulated may be used directly to form products, e.g., beverage containers, automotive pts., vinyl siding, packaging etc., by conventional methods, e.g., compression molding and extruding. The polymer latexes and particles have greatly reduced levels of low mol. wt. impurities e.g., residual polymers, diluents, solvents and aqueous borne compounds and the particles produced by coagulation may be substantially spherical and of narrow size distribution polymer.

**USP 5780565 (related to JP 10-502691)** discloses a polymerization process produces polymers that are insoluble in a reaction mixture that was homogeneous before the polymer began to form. A dispersing agent in the polymerizing system (i.e., the reaction mixture plus the dispersing agent) allows a kinetically stable dispersion of the polymer to be formed in this polymerizing system. The polymerization process is performed in a fluid held under superatmospheric conditions such that the fluid is a liquid or a supercritical fluid; the fluid being carbon dioxide, a hydrofluorocarbon, a perfluorocarbon, or a mixture of any of the foregoing.

Two types of dispersing agents can be used in the reference: polymerizable (i.e., internal or reactive) and non-polymerizable (i.e., external). External dispersing agents are those compounds that must be added as a separate component to the reaction mixture (i.e., are not polymerizable with the monomer(s)). Internal stabilizers are reactive species that can be incorporated in the resulting polymer, (i.e., polymerizable with the monomer(s)).

External dispersing agents useful in the method of the reference include fluoropolymers such as poly(FOA) and poly(FOMA); fluorinated ether compositions including poly(fluorinated ethers); random copolymers of at least one fluoromonomer or silicone monomer, such as 90:10 poly(FOA-co-IOA); and silicone- or fluorine-containing graft copolymers wherein (1) a monomer that forms a polymeric backbone insoluble in the reaction mixture of the dispersion polymerization (e.g., any non-fluorinated or non-silicone polymer such as polystyrene, poly(meth)acrylates, poly(meth)acrylamides, etc.) is copolymerized with a silicone- or fluoro-monomer, (2) an oligomer or polymer having at least one Si--H functionality is reacted with, for example, a hydrocarbon-backbone polymer bearing vinyl groups to produce an insoluble-backbone polymer with soluble siloxane grafts, or (3) a fluoromacromer or silicone macromer is copolymerized with a monomer, the homopolymer of which is insoluble in the reaction mixture.

Polymers prepared according to the process of the present invention can be used as, for instance, adhesives, vibration damping materials, molding compounds, coating materials, and chromatographic packings. Articles comprising a layer of such a polymer coated on at least one surface of a substrate are also within the scope of the reference. Such articles can be pressure sensitive adhesives, tapes, release liners, protective materials or coatings, and antiblocking or antifriction materials.

Note also claim 17 of the reference discloses a process of claim 16 wherein said non-polymerizable dispersing agent is selected from the group selected from

Art Unit: 1796

fluoropolymers, fluorinated ether compositions, polysiloxanes, block copolymers wherein at least one block is a fluoropolymer or a silicone polymer, random copolymers of at least one fluoromonomer or silicone monomer, silicone- or fluorine-containing graft copolymers.

With regard to claim 2 wherein the fluorine-containing surfactant comprises a fluorine-containing compound containing not more than 38 carbon atoms per molecule note that **USP 5780565** discloses:

"Use of a fluorine-containing moiety or a long chain hydrocarbon as part of the phosphine unit can aid in ensuring solubility in certain reaction fluids, such as, e.g., CO<sub>2</sub>."

With regard to claim 3 wherein the fluorine-containing compound is an ether oxygen-free anionic compound represented by the general formula (1): Y--(CF<sub>2</sub>)<sub>x1</sub>--(CH<sub>2</sub>)<sub>y1</sub>-A (1) wherein Y represents H or F, x<sub>1</sub> represents an integer of 4 to 13, y<sub>1</sub> represents an integer of 0 to 3 and A represents --SO<sub>3</sub>M or --COOM (in which M represents H, NH<sub>4</sub>, Li, Na or K), or an ether oxygen-containing anionic compound represented by the general formula (2): F(CF<sub>2</sub>)<sub>x2</sub>O(CF<sub>x</sub>CF<sub>2</sub>O). y<sup>2</sup>--CF<sub>x</sub>--A<sub>(2)</sub> wherein x<sup>2</sup> represents an integer of 1 to 5, y<sup>2</sup> represents an integer of 0 to 10, X represents F or CF<sub>3</sub> and A represents --SO<sub>3</sub>M or --COOM (in which M represents H, NH<sub>4</sub>, Li, Na or K). Note that **USP 5780565** discloses:

" External dispersing agents useful in the method of the present invention include fluoropolymers such as poly(FOA) and poly(FOMA); fluorinated ether compositions including poly(fluorinated ethers); any commercially available poly(siloxanes), such as poly(dimethylsiloxane); block copolymers wherein at least one block is a fluoropolymer (e.g., poly(FOA-b-IOA)) or at least one block is a silicone polymer (see, e.g., Macromolecules, 3(1), 1-4 (1970)); random copolymers of at least one fluoromonomer or silicone monomer, such as 90:10 poly(FOA-co-IOA); and silicone- or fluorine-containing graft copolymers wherein (1) a monomer that forms a polymeric backbone insoluble in the reaction mixture of the dispersion polymerization (e.g., any non-fluorinated or non-silicone polymer such as polystyrene, poly(meth)acrylates, poly(meth)acrylamides, etc.) is copolymerized with a silicone- or fluoro-monomer, (2) an oligomer or polymer having at least one Si--H functionality is reacted with, for



Art Unit: 1796

example, a hydrocarbon-backbone polymer bearing vinyl groups to produce an insoluble-backbone polymer with soluble siloxane grafts, or (3) a fluoromacromer or silicone macromer is copolymerized with a monomer, the homopolymer of which is insoluble in the reaction mixture."

With regard to claim 4 wherein the substance [A] is carbon dioxide **USP 5780565** the abstract discloses:

"A dispersing agent in the polymerizing system (i.e., the reaction mixture plus the dispersing agent) allows a kinetically stable dispersion of the polymer to be formed in this polymerizing system. The polymerization process is performed in a fluid held under superatmospheric conditions such that the fluid is a liquid or a supercritical fluid; the fluid being carbon dioxide, a hydrofluorocarbon, a perfluorocarbon, or a mixture of any of the foregoing."

Further **EP 442679** discloses:

"Preferably, the HPS comprises carbon dioxide, nitrous oxide, ethylene, ethane, propylene, propane, and/or fluorocarbons containing up to 4 C atoms. The latex contains 5-30 wt. % solids. The polymer is selected from methacrylate (MA)/butadiene(BD)/styrene(ST)copolymer (esp. 5-50 wt. % MA, 35-90 wt. % BD and 5-15 wt. % ST), acrylonitrile/BD/ST copolymers, (meth)acrylate copolymers or vinyl acetate polymers. The treatment is carried out by dispersing droplets of latex into the HPS to form particles of coagulated polymer of uniform and narrow particle size distribution, pref. the HPS is mixed with other components (to improve extraction of impurities) prior to or during dispersing the latex, more pref. with gas, e.g., nitrogen, air or helium, or with 1-4C alkanol, and the treating pressure is controlled up to 82188 x 10 power 3 W/m2 (12000psi) and the temp. from 10-200 deg.C. The coagulated particles are further treated with HPS, esp. CO2 or N2O."

With regard to claim 5 wherein the removing treatment of the fluorine-containing surfactant is carried out at a temperature not lower than 20 C. and at a pressure of not lower than 4 MPa. or claim 6 wherein the removing treatment of the fluorine-containing surfactant is carried out at a temperature not lower than the critical temperature of carbon dioxide and at a pressure not lower than the critical pressure of carbon dioxide

**USP 5780565** discloses:

"In yet another aspect, the present invention provides a kinetically stable dispersion comprising (a) at least one fluid that is a gas at STP and that is held at a pressure greater than atmospheric pressure such that the fluid is a liquid or a supercritical fluid, (b) a polymer, and (c) a dispersing agent for the polymer, the polymer being formed from one or more monomer(s) that polymerize by chain polymerization."

Art Unit: 1796

**Note also EP 442679 discloses :**

"the treating pressure is controlled up to  $82188 \times 10^3$  W/m<sup>2</sup> (12000psi) and the temp. from 10-200 deg.C."

**With regard to claim 7. wherein the treatment target substance further contains water; or claim 8 wherein the treatment target substance comprises (i) water and (ii) a nonwater component other than said water (i) containing the fluorine-containing surfactant, said nonwater component (ii) further contains a polymer or contains no polymer, said water (i) is in an amount of more than 0.1 part by mass per 100 parts by mass of said nonwater component (ii); or claim 9 wherein the treatment target substance is an aqueous dispersion comprising a polymer and water; or claim 10 wherein the treatment target substance is an aqueous nondispersion containing a polymer and water or a wet powder containing a polymer and water, and claims 13, 15, 16, 17. Note that USP 5780565 discloses throughout.**

"Any common solvent that is soluble in the reaction mixture can act as a co-solvent in the method of the present invention. Typical examples include tetrahydrofuran, alcohols, liquid alkanes, methylene chloride, chloroform, toluene, water, ketones, and esters. One or more co-solvents can be used to aid in the solubilization of one or more components in the initial reaction mixture. The amount of co-solvent must be kept below the point where the subsequent polymerization can be classified as a solution polymerization."

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With regard to claim 11 wherein the polymer is a fluoropolymer; or claim 12 wherein the fluoropolymer is a polytetrafluoroethylene polymer and 19 and 20.

See cols. 1- 4 of USP 5780565.

With regard to claim 14 which comprises producing an aggregate comprising a polymer using the method of purifying the treatment target substance according to claim 9.

"(All of these differ from solution polymerizations where all materials remain soluble in the polymerization medium throughout the course of the polymerization and from precipitation polymerization where the polymer product precipitates from the polymerization medium and aggregates.)"

With regard to claim 15 which comprises preparing the fluorine-containing-surfactant-reduced water reduced in fluorine-containing surfactant content using the method of purifying the treatment target substance according to claim 13; or claim 16 which comprises the step of carrying out a coagulation treatment of an aqueous dispersion by bringing said aqueous dispersion in which a particle comprising said polymer is dispersed into contact with an substance [A], said substance [A] being a gas under standard condition ( $10^5$  Pa, 0.degree. C.); or claim 17 wherein the coagulation

Art Unit: 1796

treatment of the aqueous dispersion is carried out at a specific treatment temperature (T C.) and at a specific treatment pressure (P Pa), the ratio (T/T<sub>c</sub>) between said specific treatment temperature (T C.) and the critical temperature (T<sub>c</sub>C.) of the substance [A] is not lower than 0.8, the ratio (P/P<sub>c</sub>) between said specific treatment pressure (P Pa) and the critical pressure (P<sub>c</sub> Pa) of said substance [A] is not lower than 0.8. Note claim 21 and examples 1-20 and cols 17-20 and claim 21 of USP 5780565.

With regard to claim 18, wherein the specific treatment temperature (T) is not lower than the critical temperature (T<sub>c</sub>) of the substance [A], the specific treatment pressure (P) is not lower than the critical pressure (P<sub>c</sub>) of said substance [A]. See cols. 1-4 and examples 1-20 and cols. 17-20 and claim 21 of USP 5780565.

Each of the references discloses a method employing the same steps (contacting) and using the same component as same components as claimed by applicants except for the particular parameter, i.e. 10<sup>5</sup> Pa, 0°C as claimed. Any properties or characteristics inherent in the prior art, e.g. 10<sup>5</sup> Pa, 0°C although unobserved or detected by the reference, would still anticipate the claimed invention. Note In re Swinehart, 169 USPQ 226. "It is elementary that the mere recitation of a newly discovered...property, inherently possessed by things in the prior art, does not cause claim drawn to those things to distinguish over the prior art". Since the disclosed parameters may be expressed differently and thus may be distinct from those claimed, it is incumbent upon applicant(s) to establish that they are in fact different and whether such difference is unobvious. In view of the above, there appears to be no significant difference between the reference(s) and that which is claimed by applicant(s). Any differences not specifically mentioned appear to be conventional. Consequently, the claimed invention cannot be deemed as novel and accordingly is unpatentable.

**35 USC 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1, 5, 6, 8-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 442679 (related to JP 4-214706 as noted on applicants I.D.S. filed 3-21-6) see abstract, claims or USP 5780565 (related JP 10502691 as noted on applicants I.D.S. filed 3-21-6).**

**EP 442679** discloses a polymer latex or coagulated polymer latex is purified by treatment with high pressure solvent (HPS) selected from liquefied gas or supercritical fluid. Depending upon choice of high pressure solvent (HPS), the purification of a polymer latex may be carried out with or without coagulating the latex.

The high pressure solvent (HPS) comprises carbon dioxide, nitrous oxide, ethylene, ethane, propylene, propane, and/or fluorocarbons containing up to 4 C atoms. The latex contains 5-30 wt. % solids. The polymer is selected from methacrylate (MA)/butadiene (BD)/styrene(ST) copolymer (esp. 5-50 wt. % MA, 35-90 wt. % BD and 5-15 wt. % ST),

acrylonitrile/BD/ST copolymers, (meth)acrylate copolymers or vinyl acetate polymers. The treatment is carried out by dispersing droplets of latex into the HPS to form particles of coagulated polymer of uniform and narrow particle size distribution, preference the HPS is mixed with other components (to improve extraction of impurities) prior to or during dispersing the latex, more preferably with gas, e.g., nitrogen, air or helium, or with 1-4C alkanol, and the treating pressure is controlled up to  $82188 \times 10$  power 3 W/m<sup>2</sup> (12000psi) and the temperature from 10-200 deg.C. The coagulated particles are further treated with HPS, especially CO<sub>2</sub> or N<sub>2</sub>O.

The polymer particles produced when the latex is coagulated may be used directly to form products, e.g., beverage containers, automotive pts., vinyl siding, packaging etc., by conventional methods, e.g., compression molding and extruding. The polymer latexes and particles have greatly reduced levels of low mol. wt. impurities e.g., residual polymers, diluents, solvents and aqueous borne compounds and the particles produced by coagulation may be substantially spherical and of narrow size distribution polymer.

**USP 5780565 (related to JP 10-502691)** discloses a polymerization process produces polymers that are insoluble in a reaction mixture that was homogeneous before the polymer began to form. A dispersing agent in the polymerizing system (i.e., the reaction mixture plus the dispersing agent) allows a kinetically stable dispersion of the polymer to be formed in this polymerizing system. The polymerization process is performed in a fluid held under superatmospheric conditions such that the fluid is a liquid or a supercritical fluid; the fluid being carbon dioxide, a hydrofluorocarbon, a perfluorocarbon, or a mixture of any of the foregoing.

In dispersion polymerizations performed in organic diluents, suppression of flocculation through the use of a polymeric stabilizer (i.e., dispersing agent) is known as steric stabilization. Traditional stabilizers have distinct segments, one segment being

soluble in and the other incompatible with the polymerization medium. The incompatible segment sorbs onto the surface of the polymer particle to be dispersed, while the soluble segment forms a sheath around the polymer particle to be dispersed. Typically, such stabilizers have been block or graft copolymers.

Two types of dispersing agents can be used in the present invention: polymerizable (i.e., internal or reactive) and non-polymerizable (i.e., external). External dispersing agents are those compounds that must be added as a separate component to the reaction mixture (i.e., are not polymerizable with the monomer(s)). Internal stabilizers are reactive species that can be incorporated in the resulting polymer, (i.e., polymerizable with the monomer(s)).

External dispersing agents useful in the method of the present invention include fluoropolymers such as poly(FOA) and poly(FOMA); fluorinated ether compositions including poly(fluorinated ethers); random copolymers of at least one fluoromonomer or silicone monomer, such as 90:10 poly(FOA-co-IOA); and silicone- or fluorine-containing graft copolymers wherein (1) a monomer that forms a polymeric backbone insoluble in the reaction mixture of the dispersion polymerization (e.g., any non-fluorinated or non-silicone polymer such as polystyrene, poly(meth)acrylates, poly(meth)acrylamides, etc.) is copolymerized with a silicone- or fluoro-monomer, (2) an oligomer or polymer having at least one Si--H functionality is reacted with, for example, a hydrocarbon-backbone polymer bearing vinyl groups to produce an insoluble-backbone polymer with soluble siloxane grafts, or (3) a fluoromacromer or silicone macromer is copolymerized with a monomer, the homopolymer of which is insoluble in the reaction mixture.

Polymers prepared according to the process of the present invention can be used as, for instance, adhesives, vibration damping materials, molding compounds, coating materials, and chromatographic packings. Articles comprising a layer of such a polymer coated on at least one surface of a substrate are also within the scope of the reference.

Such articles can be pressure sensitive adhesives, tapes, release liners, protective materials or coatings, and antiblocking or antifriction materials.

Note also claim 17 of the reference discloses a process of claim 16 wherein said non-polymerizable dispersing agent is selected from the group selected from fluoropolymers, fluorinated ether compositions, polysiloxanes, block copolymers wherein at least one block is a fluoropolymer or a silicone polymer, random copolymers of at least one fluoromonomer or silicone monomer, silicone- or fluorine-containing graft copolymers.

Thus, each of the references discloses a method employing the same steps (contacting) and using the same component as same components as claimed by applicants except for the particular parameter, i.e.  $10^5$  Pa,  $0^\circ\text{C}$  as claimed . It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ parameters as known in the art, since it is well-established that merely selecting proportions and ranges is not patentable absent a showing of criticality. In re Becket, 33 U.S.P.Q. 33 (C.C.P.A. 1937). In re Russell, 439 F.2d 1228, 169 U.S.P.Q. 426 (C.C.P.A. 1971).

### **Obviousness-type Double Patenting**

**Claims 1, 5, 6, 8-18 and 20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending Application No. 10/525847.**

Applicants argument that the claims do not disclose fluorine containing surfactant by contacting with carbon dioxide is not persuasive in that claim 2. of the applicants may be interpreted as such. Note:

Claim 2 reads:

A fluoropolymer producing method which comprises polymerizing a radical polymerizable monomer in a manner of continuous polymerization in a defined reaction-field in the presence of carbon dioxide to give the fluoropolymer, wherein said defined reaction-field is in a super criticality-expression state, said radical polymerizable monomer comprises a fluorine-containing ethylene monomer, said carbon dioxide amounts to at most equivocal to said radical polymerizable monomer, and said fluoropolymer has a weight average molecular weight [Mw] of not lower than 150,000 as determined on the polystyrene equivalent basis and a ratio [Mw/Mn] of the weight average molecular weight [Mw] on the polystyrene equivalent basis to a number average molecular weight [Mn] of the fluoropolymer on the polystyrene equivalent basis is higher than 1 but not higher than 3.

As noted previously, although the crux claim 2 does not directly *appear* to be directed to the method as expressed by applicants, i.e. the removal of a moiety, it is in affect, accomplished by the method of the claims since the conditions are the same and contrary to applicants insertion, carbon dioxide is contacted with a fluorine containing surfactant and some form of purification is inherently taking place though not intended or measured.

### **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP



Art Unit: 1796

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### **Correspondence**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terressa M. Boykin whose telephone number is 571 272-1069. The examiner can normally be reached on Monday-Thursday 10-5:30 Friday (work at home).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1796

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Terressa M. Boykin/  
Primary Examiner, Art Unit 1796